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Possibilities for a Positive Change in the Body Image of Students in Dance-Motor Training

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Abstract

This article presents a study on the effectiveness evaluation of the author's program of dance-motor training aimed at developing a positive image of the physical self in adolescence. The authors used a comprehensive approach to assess the effectiveness of training: the types of psychological problems, the characteristics of the image of the physical self, and the functional state of the participants in the training were monitored. The study involved 96 students from Nizhny Novgorod universities aging from 18 to 25. The researchers used the methods of the drawing test 'Human figure' (K. Mahover, F. Gudinaf); the test of twenty statements 'Who Am I' (M. Kun, T. McPartland); and the method of computer campimetry for assessing the functional state of the body by the function of color-diffusion (SA Polevaya). The self-body image of the subjects in the experiment was characterized by weak integration and awareness; negative and disharmonious deep self-esteem; low values of awareness of one's own uniqueness; and the maximum limit of the green color was detected in more than half of the subjects (61.45%). Dance-motor training was based on the methodological principles of the integrative-holistic and syndrome-factor approach to mental disorders, developed by A.R. Luria. The development of the psychomotor sphere of a personality was considered as a trigger mechanism for restoring the interaction between the psychological and physiological sub-systems of mental activity. The dependence of the content and structure of mental processes on socio-cultural experience (i.e., world artistic culture) was actualized. The mechanism of the regulating role of an image and speech in building the movement has become more active. Dance-motor trainings with students were conducted over the course of a year. We used methods of body-oriented psychotherapy, vegetotherapy, and dance-motor therapy, including contact improvisation. The dance-motor training included warm-ups (aerobic and anaerobic exercises, muscle-stretching exercises); the thematic study of muscle clamps; and choreographic performances (learning movement stereotypes, free and contact improvisation). In the control experiment, a statistically significant conjugate dynamics was observed for the majority of the studied parameters (0.001).

Keywords: body image, dance-motor training, students

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Received: 25 July 2018
Accepted: 9 August 2018
Published: 1 November 2018

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the Fifth International Luria Memorial Congress Conference Committee.

1. Introduction

In modern psychotherapeutic and psychological practice, positive motor experience is actively used as a factor in psychophysical health and personal growth of a person.

Dance movement therapy is very popular today because the mechanisms of its influence on the psychological and psychosomatic health of a person have been very well researched [1–5].

In this article, we present a study of the acute problem of conditions for a positive change in a self-body image of the participants in a dance-motor training group.

A key indicator and mechanism of positive personality changes in conditions of expressive and motor practices is the body image [6–9]. In our study, we will use the definition of the body image as 'a picture of our own body that we create in our head' [6, p. 11].

Neuropsychological studies of the self-consciousness of an individual have proved the significance of the development of an individual's exact representation of the image of their physical self and steps for the improvement of their higher mental functions [10–12].

Today, scientists have successfully studied the relationship between:

the body image of college and university students and self-satisfaction [13, 14]; accomplishments and self-efficiency [15]; self-evaluation [16]; type of preferred physical activity, family and friends attitude [17, 18]; and life habits [19].

Negative body image reduces self-acceptance, can cause states of frustration, anxiety, and social disadaptation, and can impede the communication of subjects [6, 20, 21]. A positive image of the body is associated with positive motor activity and with the experience of pleasure and joy [18].

Thus, the body image is a key indicator of the self-esteem, self-acceptance and self-efficiency of an individual, as well as a person's life habits, lifestyle, and type of physical activity.

2. Methodology

The complex nature of psychological problems is reflected in the body image of the personality. Distortions of perception and worries about one's physical-self have both physiological and psychological roots [6, 20, 21].

We believe that the system of dance-motor trainings is an effective integrative practice that contributes to social and psychological well-being, a positive reorganization of the body image and optimization of students' mental states.

The purpose of this study was to examine the dynamics of the body image of students participating systematically in the dance-motor training.

We used a comprehensive system for monitoring the training's effectiveness: along with psychological properties, we controlled the physiological indicators of the participants' functional states in the training based on the color distribution function [22].

We used *methods* of observation, questionnaires and interviews, as well as the following methods: the author's modification of the drawing test 'Drawing of a Man' (K. Mahover, F. Gudinath), in which the participants were asked to depict themselves in full; the author's modification of the test of twenty statements 'Who am I ?' (M. Kun, T. McPartland), in which we asked the subjects to describe themselves through physical characteristics; the method of assessing the functional state on the basis of computer campimetry [23].

The study was conducted in the studio of dance-motor improvisation 'Kinesio' (Nizhny Novgorod) under the leadership of L.N. Kuzminykh. The study involved 96 students from Nizhny Novgorod universities and colleges who attended the studio throughout the year. Of these, 58 were women and 38 were men, aging from 18 to 25. The control group included 84 students, 49 women and 35 men aged 18 to 25.

The following tasks were set:

1. to form a typology of psychological problems and to study the features of the body image of the group members;

2. to measure the values of differential color detection thresholds as indicators of the starting functional state;

3. to develop a program of group dance-motor training aimed at the positive development of the body image, including group psychotherapeutic exercises of expressive plasticity on the basis of world artistic culture images; and

4. to conduct a control experiment to study changes in the body image of students in the process of group dance-motor training.

3. Results

A typology of problems of potential participants in a training group was defined on the basis of interviews conducted during the ascertaining experiment. Most often, students pointed out such vital and psychological difficulties as: inability to build deep interpersonal relationships (78.12%), lack of self-confidence (58.33%), high proclivity toward conflict (48.95%), psychoemotional instability with predominance of negative moods (68.75%), dissatisfaction with their way of life in general (81.25%), lack of a significant form of creativity and the need for creative self-expression (85.41%).

Studying the modality of self-descriptions of the participants in the training (M. Kun, T. McPartland) has shown that the whole group had a predominantly neutral assessment of the body image (42.70%). Emotional descriptions in the self-reports of these respondents were absent; often they included a formal enumeration of roles ('son', 'student', 'athlete', etc.).

Negative assessment was observed among one third of the respondents (30.20%), in which negative categories of self-descriptions prevailed. Body deficiencies and problems were described more often ('ugly', 'fat', 'disproportionate').

Only 15.62% of the subjects showed a positive evaluation of their body type, negative self-descriptions of the students clearly prevailed over the positive ones ('mobile', 'flexible', 'strong', 'relaxed').

A group of respondents (11.45%) was identified with unrealistically overrated assessments of themselves and their body image, which manifested in the absence of negative self-identifications and the predominance of self-descriptions to an excellent degree ('I am the best', 'I'm super', etc.)

The body image according to the projective drawings of the training participants (K. Mahover, F. Gudinaf) was evaluated by us on three scales: positive – negative; holistic – fragmented; harmonious – disharmonious.

The projective drawing showed increased attention to the sphere of intellect and control at the expense of unique individual characteristics.

Only 27.08% of respondents showed the holistic nature of the body image (the presence of all the details of the image). Signs of a positive body image were observed only in 13.37% of participants. Signs of depersonalization (attitude to yourself as an object), which we rated as a negative body image, was revealed in 86.63% of respondents. Thus, 16.66% of the subjects did not draw a face (empty oval or face completely covered with hair), 70.83% painted a 'mask' instead of the person ('doll', 'cartoon character', 'smiley', 'scheme').

All subjects showed signs of disharmony of the body image: head size exceeded the size of the whole body (66.66%), the head significantly exceeded the real body proportions (33.34%).

The results of a campiometric study showed that before training the subjects with a maximum threshold in red (frustrated, depressed state) made 22.91%; in blue (anxiety state) – 15.62%; in green (optimal condition) – 61.47%.

Thus, the ascertaining experiment showed that for most of the experimental subjects typical signs of social maladaptation were typical. The body image was characterized by weak integration, high disharmony and prevalence of negative modality.

Subjects of the experimental group took part in the dance-motor trainings throughout the year.

The system of dance-motor trainings was based on the methodological principles of integrative-holistic and syndrome-factor approach to the mind disturbances (A.R. Luria): the development of the psychomotor sphere of the personality was viewed as a triggering mechanism for restoring the interaction between the psychological and physiological subsystems of mental activity; the dependence of the content and structure of mental processes on sociocultural experience (world art culture) was actualized; The principle of the regulating role of speech and image in the motion construction was used [10, 24].

In the trainings the following methods were used: a method of bodily-oriented psychotherapy, V. Reich's vegetotherapy, dance-motor therapy including contact improvisation.

The following techniques were used: sharing (verbalization of psychological and psychosomatic problems and conditions); warm-up using methods of soft muscle stretching; spontaneous dance based on a random image; contact improvisation with mastering basic skills of a pair dance.

Each lesson included the following stages: warm-up (aerobic and anaerobic exercise, exercises for muscle stretching), thematic elaboration of muscle clamps; choreographic productions, in which different forms and types of movements were combined.

After studying new stereotypes of movements, a number of creative tasks were given for free improvisation in pairs and solos. Tasks with voice and breathing, creative tasks for verbal improvisation and vocalization were offered. There was also a discussion of emotional states which allowed to identify cases of unconscious resistance to new experiences, clarify body sensations and experiences, body responses to a new experience.

Table 1: Typology of psychological problems of training participants.

Types of psychological problems	Ascertaining experiment		Control experiment		P-value (χ^2)
	People	%	People	%	
Inability to build deep interpersonal relationships	75	78.12	51	53.12	36.56 $p < 0.001$
Insufficient self-confidence	56	58.33	32	45.12	5.60 $p < 0.05$
High Conflict	47	48.95	25	26.04	21.00 $p < 0.001$
Psycho-emotional instability with a predominance of negative mood	66	68.75	38	39.58	48.71 $p < 0.001$
Dissatisfaction with one's own way of life as a whole	78	81.25	28	29.16	178.10 $p < 0.001$
Dissatisfaction of the need for creative self-expression	82	85.41	29	30.20	244.60 $p < 0.001$
Max.	96	100.00	96	100.00	

The process of individual, plastic creativity smoothly passed into a pair and group contact improvisation, where skills of 'recognizing' and accepting others, building communication based on empathy were learned.

Special attention in the training was paid to the use of world art masterpieces and expressive plasticity. A stress component was also used – theatrical pieces of plastikodrama in the form of a performance.

The following forms of world art were used: listening and discussion of classical, jazz, ethnic music; viewing and discussion of classical and actual painting with the subsequent use of images in improvisation plasticity; motor improvisation accompanied by poetry without music.

In the course of the control experiment, the following results were obtained. The dynamics of frequencies according to the types of psychological problems of participants in the training is presented in Table 1.

Table 1 shows that the participation of respondents in dance and motor training throughout a year statistically significantly increases the socio-psychological adaptation of students. The most pronounced dynamics was noted in terms of: dissatisfaction with their own way of life in general (81.25%/29.16%) and the dissatisfaction of the need for creative self-expression (85.41%/30.20%).

Table 2: Modality of the body image in self-descriptions of participants in the training.

Modality of the body image	Ascertaining experiment		Control experiment	
	People	%	People	%
Negative	29	30.20	14	14.58
Neutral	41	42.70	35	36.45
Positive	15	15.62	40	41.66
High, unreal	11	11.45	7	7.31
Total	96	100	96	100

Table 3: Body image of the training participant.

Body image characteristics	Ascertaining experiment		Control experiment		P-value (χ^2)
	People	%	People	%	
Holistic	26	27.08	72	75.00	116.28 $p < 0.001$
Dissociated	70	72.92	24	25.00	
Total	96	100.00	96	100.00	
Positive	22	13.37	76	79.16	373.69 $p < 0.001$
Negative	74	86.63	20	20.84	
Total	96	100.00	96	100.00	
Harmonious	0	0.00	75	78.12	77.65 $p < 0.001$
Disharmonious	96	100.00	25	11.88	
Total	96	100.00	96	100.00	

Interviews with the participants of the trainings proved that the dynamics of signs of communicative and emotional-volitional problems of the participants decreased reliably at a sufficiently high level ($p < 0.001$).

A study of the dynamics of the modality of self-descriptions of participants in the training (M. Kun, T. McPartland) is presented in Table 2.

From Table 2, we can see a positive statistically significant dynamics of body image modality in the students of the experimental group ($\chi^2 = 53.35$, $p < 0.001$): the scale of psychological and physical self-descriptions shifted to positive (15.62%/41.66%) due to neutral (42.70%/36.45%) and negative (30.20%/14.58%).

Dynamics of the body image according to the drawings of the participants in the training (K. Mahover, F. Gudinaf) is presented in Table 3.

Table 3 shows a positive statistically significant dynamicson the key characteristics of the body image of the participants in the training. A holistic character of the body image (the presence of all the details of the image) was shown by 75% of the students in the experimental group ($p < 0.001$).

The positive character of the body image in the drawings grew from 13.37% to 79.16%. In this case, the face was shown in 100% of the subjects ($p < 0.001$). It is important that masks came off the faces of the experimental group. The participants of the experimental group tried to give a person a meaningful expression and give the painted person emotions and expressive plasticity.

The harmony of the image significantly increased: 78.12% of the participants in the experimental group drew normal proportions of the head and body, and the body was given expressive dynamics ($p < 0.001$).

According to campiometry after the course of studies, the proportion of subjects with a maximum threshold in red (depressive state) was 19.79%, with a maximum threshold in green (optimal state) – 78.13%, and with a maximum threshold in blue (alarm state) color – 2.08%, that is, the changes in the states of participants in the training are mainly related to overcoming the anxiety states ($\chi^2 = 16.67$, $p < 0.001$). Physiologically depressive states were registered and preserved practically at the starting level, despite the positive dynamics of the psychological indicators of the body image and social adaptation.

4. Conclusions

Thus, the study of the dynamics of the psychological and physiological parameters of the subjects from the ascertaining to the control experiment showed the possibility of a positive change in the body image of students participating in dance and motor training throughout a year.

Dance-motor training was an effective factor of the associated statistically significant positive dynamics in the set of indicators studied: the respondents' instructions for communicative and emotional-volitional problems decreased, social and psychological adaptation and satisfaction improved; the modality of the body image shifted toward self-acceptance – the growth of positive self-description was noted due to the reduction of negative and neutral ones; the most pronounced changes occurred in the projective portrait – two-thirds of the participants' drawings contained signs of a holistic, positive, harmonious image of the body; campimetry allowed to identify the optimization of the functional state in terms of a significant reduction of anxiety.

Thus, our study showed that the dance-motor training, built on the methods of dance-motor therapy and the principles of integrative-holistic and syndrome-factor approach (A.R. Luria), has a complex effect. The combination of spontaneous and cultural movements on the basis of the artistic image and wording helps both in solving

psychological problems of adolescence and in establishing an optimal functional state through positive changes in the body image.

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